

# MASTER COPY

DEPARTMENT OF THE NAVY

COMMANDER NAVAL AIR FORCE  
UNITED STATES PACIFIC FLEET  
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COMMANDER NAVAL AIR FORCE  
UNITED STATES ATLANTIC FLEET  
NORFOLK, VIRGINIA 23511-5315

COMNAVAIRPAC/  
COMNAVAIRLANTINST 1520.12A  
NAVAIRPAC 34  
NAVAIRLANT 33

17 AUG 1992

## COMNAVAIRPAC/COMNAVAIRLANT INSTRUCTION 1520.12A

Subj: TRAINING OF COMMAND DUTY OFFICERS (CDOs) IN NAVAIRLANT AND NAVAIRPAC SHIPS

Ref: (a) U.S. Navy Regulations, 1990  
(b) OPNAVINST 3120.32B

Encl: (1) Recommended Training Syllabus for Qualification as Command Duty Officer (CDO) Inport  
(2) Recommended Training Syllabus for Qualification as Conning Officer Alongside  
(3) Recommended Training Syllabus for Qualification as Command Duty Officer (CDO) Underway

1. Purpose. To establish guidelines for a training program for Unrestricted Line Officers leading to qualifications as Conning Officer Alongside, CDO (inport) and CDO (underway) onboard ships within both the Naval Air Force, U.S. Atlantic and Pacific Fleets. Due to extensive revision, paragraph markings have been omitted. This instruction should be read in its entirety.

2. Cancellation. COMNAVAIRPAC/COMNAVAIRLANTINST 1520.12

3. Background. Article 0703 of reference (a) established the authority of the Commanding Officer to designate an officer as the CDO. Articles 441.1 and 432.2 of reference (b) define the duties, responsibilities and authority of the CDO (inport) and the CDO (underway).

4. Discussion

a. Naval aviators aspiring to become qualified for major command at sea shall take every opportunity to increase their knowledge of shipboard organization and routine and develop their shiphandling skills. Watches that have been established for ensuring safe and proper operation of the command are the CDO (inport) and the CDO (underway). Additionally, a Conning

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Alongside qualification is a shiphandling qualification that is the first step in the underway training program. Officers eligible for the FY-95 major sea command board and subsequent boards will be required to have received formal designation as CDO (underway) per enclosure (3) or be PQS qualified as a Fleet OOD (underway) in order to be considered by the board.

b. CDO (Inport). The CDO inport is that officer who has been designated by the Commanding Officer as his direct representative and deputy to the Executive Officer for carrying out the routine of the ship inport and for supervising and directing the Officer of the Deck (OOD) in matters concerning the safety and general duties of the ship. In the temporary absence of the Executive Officer, the duties of the Executive Officer will be carried out by the CDO (inport). Enclosure (1) outlines the recommended syllabus for this qualification.

c. Conning Officer Alongside. This is the first phase of the underway shiphandling training syllabus and is designed to acquaint prospective conning officers alongside with their duties, procedures and any emergencies that might be encountered while conning alongside. Enclosure (2) is the syllabus for this qualification.

d. CDO (Underway). The CDO (underway), when assigned, is that officer, eligible for command at sea, designated and empowered by the Commanding Officer for a specified period to advise, supervise and direct the OOD in matters concerning the general operations and safety of the ship. While on watch, the CDO (underway) has the same relationship with the OOD as that prescribed for the Executive Officer. Enclosure (3) is the syllabus for this qualification.

## 5. Action.

a. Carrier commanding officers shall:

(1) Implement a CDO training program in accordance with the guidelines contained herein.

(2) Document attainment of designation with a letter to the officer (copy to service record and PERS 43), including, if applicable, certification of shiphandling ability.

(3) Ensure that each officer's Fitness Report contains a suitable statement reflecting his qualification, performance or progress of training as a CDO (inport), Conning Officer Alongside and CDO (underway).

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b. Air Wing Commanders. Encourage the qualification of air wing senior Unrestricted Line Officers as CDOs (underway) of aircraft carriers as a requisite for major sea command.

c. Group Commanders. Monitor individual ship's training efforts to ensure objectives of the CDO training program are achieved.

*L.R. Canepa*  
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RECOMMENDED TRAINING SYLLABUS FOR QUALIFICATION  
AS COMMAND DUTY OFFICER (CDO) INPORT

The following syllabus provides a basis on which commanding officers can develop a program to train senior Unrestricted Line Officers for qualification as CDO (inport). This syllabus consists of lectures and tours to acquaint the prospective CDO with the organization, functions and responsibilities of the ship's departments.

1. Senior Watch Officer:

- a. The CDO watch
- b. Succession to command
- c. Command policies and guidance
- d. SOPA instructions (applicable port)
- e. Ship's routine
- f. Working parties and working divisions
- g. Visitors and guests doctrine
- h. Relieving the watch
- i. Use of IMC
- j. Morning and evening colors
- k. OPREP 3/Navy Blue procedures (OPNAVINST 3100.6D)
- l. Relations with Flag

2. Administration Department:

- a. Emergency leave procedures
- b. Personnel casualty procedures/death or serious injury
- c. Procedures for safeguarding classified material
- d. Recall procedures
- e. PAO/press inquiries

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f. Legal officer

- (1) Liberty cancellation
- (2) Warrants, subpoena, service of process
- (3) Confinement/restriction
- (4) Restriction in Lieu of Arrest (RILA)
- (5) Granting asylum to foreign nationals
- (6) Returned deserters
- (7) Lawful searches
- (8) Urinalysis
- (9) Blood alcohol test

3. Navigation Department:

- a. Bridge watch team
- b. Relationship to OOD (underway/inport)
- c. U.S. Navy Regulations regrading CDO authority to relieve OOD
- d. Responsibilities of Quartermaster of the Watch (QMOW)
- e. Ship's routine of quarterdeck
- f. Honors and ceremonies
- g. Reduced visibility at anchor
- h. Oil pollution/environmental protection bill
- i. Hazardous waste/hazardous material instruction
- j. Emergency procedures
  - (1) Dragging anchor
  - (2) Man overboard

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- k. Deck log
  - (1) Proper entries
  - (2) Corrections

4. Operations Department:

- a. Operations department watches
- b. Alert and emergency instructions including:
  - (1) Fleet commander operation plans
  - (2) CINC and TYCOM operation plans and operation orders
- c. EMCON plans
- d. Inport readiness conditions
- e. Heavy weather procedures
- f. Emergency sorties plans
- g. Scheduling/pilot sheet/green sheet
- h. ATO functions inport and underway
- i. Tour CATCC with:
  - (1) Description of CATCC and CCA principles and procedures
  - (2) Radar navigation and piloting
  - (3) Surface contacts and reporting
  - (4) Entering and leaving port
  - (5) Normal steaming watch (EW, air and search)
  - (6) Anti-submarine and air warfare procedures and capabilities
  - (7) Anti-ship missile defense procedures and capabilities
  - (8) Tour of ASW module
- k. Tour of CVIC

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5. Communications Department:

- a. Communications Watch organization
- b. Incoming messages - routine, handling, acknowledgement and reply
- c. Outgoing messages - preparation, drafting and handling
- d. Special messages (OPREP, AMCROSS, heavy weather, etc.)
- e. Authorization for release
- f. Signal watch and radio watch

6. Air Department:

- a. Air department watch organization
- b. Air department integrity watch officer
- c. Movement of aircraft elevators
- d. Handling and movement of aircraft
- e. Aircraft crash/fire fighting procedures
- f. Observe air operations from Primary Fly (day and night)
- g. Lecture and tour of:
  - (1) Catapult and arresting gear spaces
  - (2) Air department shops
  - (3) Flight deck control
  - (4) Hangar deck conflagration stations

7. Security:

- a. Master-at-arms organization
- b. Internal and external security of the ship
- c. Security lighting
- d. Security watches

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- e. Visitor control
- f. Security precautions
  - (1) Armed guards
  - (2) Use of deadly force
- g. Ship's brig - procedures for use/location
- h. Searches
- i. Marine detachment/watch organization
  - (1) SASS Magazine
  - (2) Physical security responsibilities
- 8. Weapons Department:
  - a. Weapons department watches
  - b. Internal and external security of the ship
  - c. Keys to magazines and magazine sprinkling systems
  - d. Nuclear weapons handling (accident and incident)
  - e. Tour of department spaces
  - f. Armory procedures
- 9. Deck Department:
  - a. Deck department watches
  - b. Small boats and boat security
  - c. Anchoring, mooring to pier and getting underway
  - d. Heavy weather bill
  - e. Boat bill
- 10. Engineering Department:
  - a. Engineering department watches

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- b. Damage control organization
- c. Inport fire parties/repair parties
- d. Procedures for transferring fuel
- e. Rescues and assistance detail
- f. Chemical, Biological and Radiological (CBR) defense bill
- g. Main propulsion configuration
- h. Electrical system
- i. Tour of DC Central and main propulsion spaces
- j. Description of pier services

11. Supply Department:

- a. Supply department watches
- b. Non-working hours procedures
- c. Stores loading
- d. Garbage/trash/plastic disposal
- e. Vendors
- f. Hangar deck responsibilities (i.e., forklifts, pallets and receiving areas)

12. Aircraft Intermediate Maintenance Department (AIMD):

- a. AIMD watches
- b. Tour of AIMD shops
- c. Yellow gear equipment operators
- d. Jet engine test cell requirements

13. Medical and Dental Departments:

- a. Medical and dental department watches

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- b. Emergencies
- c. Medical waste disposal
- d. Competence for duty examinations
- e. Mass casualty handling procedures
- f. Pre-confinement physical examinations.

14. Safety:

- a. Command safety policy
- b. Shipboard mishap procedures
- c. Hot work procedures
- d. Divers over the side
- e. NAVOSH safety precautions

15. Chaplain:

- a. AMCROSS message procedures
- b. Navy Relief procedures
- c. Emergency leave procedures
- d. Divine services

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RECOMMENDED TRAINING SYLLABUS FOR QUALIFICATION  
AS CONNING OFFICER ALONGSIDE

RECORD OF TRAINING

<u>UNIT</u>	<u>TITLE</u>	<u>SIGNATURE/DATE</u>
1	Preparation for Shiphandling	_____ (NAVIGATION)
2	Underway Refueling & Replenishment, Part I	_____ (NAVIGATION)
3	Underway Refueling & Replenishment, Part II	_____ (DECK)
4	Engineering Procedures	_____ (ENGINEERING)
5	Open Book Exam	_____ (TEST ADMINISTRATOR)

Practical Factors:

<u>UNIT</u>	<u>TITLE</u>	<u>SIGNATURE/DATE</u>
1	Observe one entire UNREP (Rendezvous to Breakaway)	_____
2	Stand two watches under direct supervision of an Alongside Safety Observer	(1) _____ (2) _____
3	Complete six hours of Alongside Conning (at least 2 hours at night)	_____
4	Observe two Breakaways (1 Normal, 1 Emergency)	(1) _____ (2) _____
5	Conduct one Breakaway (Normal or Emergency)	_____

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- 6 Observe two approaches (1) \_\_\_\_\_  
(1 day, 1 night) (2) \_\_\_\_\_
- 7 Conduct two approaches \_\_\_\_\_  
(1 Day, 1 Night)
- 8 Complete orders to the \_\_\_\_\_  
Helm/Lee Helm Worksheet (NAVIGATION)
- 9 Complete Steering \_\_\_\_\_  
Casualty Worksheet (NAVIGATION)

Designation Letter Submitted by: \_\_\_\_\_

Signed: \_\_\_\_\_

Name: \_\_\_\_\_ Rank: \_\_\_\_\_ SSAN: \_\_\_\_\_

Note: Return this record of training to the Navigator when all training and practical factors have been completed.

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UNIT 1

PREPARATION FOR SHIPHANDLING

Purpose: To instruct selected unrestricted line officers in the elements of shiphandling and conning. To indoctrinate those officers in the use of equipment on the Bridge and normal Bridge routine.

Presentation: Navigator or Assistant Navigator during at least one underway watch on the Bridge.

1. Bridge Equipment. The prospective Alongside Conning Officer will tour the Bridge with the Navigator or Assistant Navigator.

- a. Helm
- b. Engine Order Telegraph
- c. Radios
- d. Sound powered circuits
- e. Emergency signals and alarms
- f. Whistle signals
- g. Ship's navigation lighting
- h. Radar
- i. Auxiliary Conn
- j. Use of bearing circle

2. Bridge Routine:

- a. Commanding Officer's policy
- b. Relationship between the XO, CDO and OOD
- c. The Conn
- d. Orders to the Helm
- e. Orders to the Lee Helm

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f. Reports

3. Ship's Characteristics:

- a. Acceleration/deceleration
- b. Speed and RPM
- c. Rudder angle and heel
- d. Tactical diameter
- e. Advance and transfer
- f. Time to turn
- g. Distance/time to stop
- h. Rate of turn
- i. Pivot point (ahead/astern)
- j. Heeling
- k. Rules of Thumb

4. General Facts (fill in the blanks):

- a. Displacement (average) \_\_\_\_\_
- b. Draft (average) \_\_\_\_\_
- c. Length \_\_\_\_\_
- d. Highest point of the ship \_\_\_\_\_
- e. Height of eye at 09 level \_\_\_\_\_
- f. Length of Flight Deck \_\_\_\_\_
- g. Length of anchor chain \_\_\_\_\_
- h. Total shaft horsepower \_\_\_\_\_

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i. Fuel capacity:

(1) JP-5 \_\_\_\_\_

(2) Navy Distillate (DFM) \_\_\_\_\_

j. Most economical speed \_\_\_\_\_

5. Ship's Emergencies:

a. Rudder Split \_\_\_\_\_

b. Electrical Failure \_\_\_\_\_

c. Steering Failure \_\_\_\_\_

d. Gyro Failure \_\_\_\_\_

6. Conning:

a. General

(1) The Conning Officer \_\_\_\_\_

(2) Standard commands to Helm and Lee Helm \_\_\_\_\_

b. OOD Standing Orders \_\_\_\_\_

7. Tour of after-steering, lifeboat stations, and Secondary Conning (SEC CONN).

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UNIT 2

UNDERWAY REFUELING AND REPLENISHMENT

PART I

Purpose: To discuss the tactical considerations and evolutions involved in underway replenishment. To provide instruction in conning the ship during underway replenishment.

Presentation: Navigator or Assistant Navigator

1. Replenishment Procedures and Equipment:

- a. Maneuvering
- b. Selecting course and speed
  - (1) Water depth
  - (2) Speed
  - (3) Sea state
  - (4) Pressure effects
  - (5) Steering control
  - (6) Communications between ships
- c. Emergency breakaway
- d. Other emergency procedures
- e. Replenishment message
- f. Replenishment at night
  - (1) Preparations
  - (2) Night lighting

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TRAINING SYLLABUS FOR QUALIFICATION  
CONNING OFFICER ALONGSIDE

RECOMMENDRECORD OF TRAININGSIGNATURE/DATE

(NAVIGATION)

(NAVIGATION)

(DECK)

(ENGINEERING)

(TEST ADMINISTRATOR)

UNITTITLE

1

Preparation for  
Shiphandling

2

Underway Refuelin  
Replenishment, Pa

3

Underway Refuelin  
Replenishment, Pa

4

Engineering Proce

5

Open Book Exam

Practical Factors:UNITTITLE

1

Observe one entir  
(Rendezvous to Br

2

Stand two watches  
direct supervisio  
an Alongside Safe  
Observer

3

Complete six hour  
Alongside Conning  
least 2 hours at

4

Observe two Break  
(1 Normal, 1 Emer

5

Conduct one Break  
(Normal or EmergeSIGNATURE/DATE

(1)

(2)

(1)

(2)

Enclosure (2)

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b. Air Wing Commanders. Encourage the qualification of air wing senior Unrestricted Line Officers as CDOs (underway) of aircraft carriers as a requisite for major sea command.

c. Group Commanders. Monitor individual ship's training efforts to ensure objectives of the CDO training program are achieved.

*L.R. Canepa*  
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Chief of Staff

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42J CARRIER AIR WINGS

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UNIT 2

UNDERWAY REFUELING & REPLENISHMENT

PART II

Purpose: To provide instruction with regard to the procedures and problems associated with underway refueling and replenishment on the hangar deck, flight deck and sponson stations.

Presentation: First Lieutenant

1. Preparations
2. Safety precautions
3. Communications
4. Station-to-Station Alignment
5. Types of rigs used - Capabilities and limitations:
  - a. Use of wire high line and light load line
  - b. Line and hose tending - Probe/Robb/NATO refueling
  - c. Burton Rig
  - d. STREAM-Star/Traveling Surf/Modified Housefall
6. Hook-up - Shot line/bolos
7. Personnel transfers
8. Breakaway:
  - a. Emergency
  - b. Normal

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UNIT 3

ENGINEERING PROCEDURES

Purpose: To describe the propulsion plant configuration and to discuss procedures for handling emergencies which may be encountered while conning alongside.

Presentation: Chief Engineer or Main Propulsion Assistant (MPA)

1. Plant Alignment Alongside:

- a. Standby machinery in operation
- b. Six SSTGs; electrical load split between six switchboards
- c. Entire plant split out
- d. Chief Engineer and MPA in Main Control
- e. Restricted Maneuvering Casualty Control procedures in effect

2. Engineering Casualty Control:

a. Boiler Casualties:

- (1) Ruptured tube
- (2) Low water
- (3) Loss of fires
- (4) High water

b. Engine Room Casualties:

- (1) Loss of vacuum
- (2) Loss of main engine lube oil
- (3) Noise in reduction gear
- (4) Wiped spring bearing
- (5) Hot condenser

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(6) Loss of DFT

(7) Hot bearing

c. Electrical Casualties:

(1) Loss of generator

d. Class "B" fires in main spaces:

(1) Fire Room

(2) Engine Room

(3) Generator Room

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RECOMMENDED TRAINING SYLLABUS FOR QUALIFICATION  
AS COMMAND DUTY OFFICER (CDO) UNDERWAY

RECORD OF TRAINING

<u>UNIT</u>	<u>TITLE</u>	<u>SIGNATURE/DATE</u>
1	Tactical Maneuvering	_____
2	Rules of the Road	_____
3	Navigational Equipment & Procedures	_____
4	Engineering/Damage Control	_____
5	Flight Operations (Parts I & II)	_____
6	Anchoring & Getting Underway from Anchorage	_____
7	Entering & Leaving Port	_____
8	Combat Direction Center	_____
9	CDO (U/W) Oral Board	_____

Practical Factors

<u>Unit</u>	<u>Title</u>	<u>Signature/Date</u>
1	Conning in Narrow Channel/ underway (1 hour)	_____
2	Conning to Anchorage	_____
3	Underway with Duty Section (2 watches)	_____
4	Underway from Anchorage	_____

Enclosure (3)

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Designation Letter Submitted by: \_\_\_\_\_

Signed: \_\_\_\_\_

Name: \_\_\_\_\_ Rank: \_\_\_\_\_ SSAN: \_\_\_\_\_

Note: Return this record of training to the Navigator when all training and practical factors have been completed.

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UNIT 1

TACTICAL MANEUVERING

Purpose: To instruct the prospective CDO (U/W) in the elements of tactical maneuvering. To review procedures and methods of tactical signalling, use of the maneuvering board and applicable tactical publications.

Presentation: Navigator or Assistant Navigator

1. Officer in Tactical Command
2. Station Keeping
3. Maneuvering Board
4. Signals:
  - a. PRITAC/SECTAC restrictions
  - b. Flag, flashing light and Nancy
5. Maneuvering in formation (Standard Tactical Diameter)
6. The Screen
7. Emergencies:
  - a. Plane crash
  - b. Man overboard
  - c. Steering failure
  - d. Aircraft in the water

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UNIT 2

RULES OF THE ROAD

Purpose: To provide the prospective CDO (U/W) with a working knowledge of the Rules of the Road and of the special maneuvering rules that apply to U.S. naval vessels.

Presentation: Navigator or Assistant Navigator

1. Definitions:

- a. Underway
- b. Making way
- c. Not making way
- d. Under command
- e. Not under command

2. Navigational Lights:

- a. Definitions
- b. Darken ship
- c. Special cases
- d. Review lights for different types of vessels

3. Low Visibility Sound Signals

4. Radar and Rules of the Road

5. Action to be taken in a meeting situation:

- a. Giveway vessel
- b. Direction of course alteration
- c. Whistle signals
- d. Speed

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6. Rules of the Road:

- a. Complete Rules of the Road Computer Program.
- b. Pass Rules of the Road Exam.

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UNIT 3

NAVIGATIONAL EQUIPMENT & PROCEDURES

Purpose: To describe the navigational equipment used and the navigational procedures employed on a carrier.

1. Navigation Equipment - Navigator or Assistant Navigator

- a. SRN-19
- b. SRN-25
  - (1) OMEGA
  - (2) SATNAV
  - (3) GPS
- c. WRN-6
- d. SPS-67/64
- e. Furuno
- f. Fathometer
- g. Compass
  - (1) MK-19
  - (2) SINS
  - (3) Magnetic
- h. Alidades
- i. Stadimeter

2. Bridge Communications:

- a. Sound powered phones
- b. MC circuits
- c. Radios (UHF/VHF/HF)

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d. Signal Bridge (lights/flags)

3. Celestial Navigation:

a. Sunrise/sunset, moonrise/moonset

b. Celestial lines of position

4. Tides and Currents:

a. Computation of tides and currents

b. Environmental influences on computed data

c. Gulf Stream and its effect on coastal navigation and UNREP

5. Navigation for carrier operations:

a. Computations of true wind and FOX CORPEN

b. Navigational considerations in cyclic operations

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UNIT 4

ENGINEERING/DAMAGE CONTROL

Purpose: To provide a review for the prospective CDO (U/W) of engineering spaces, equipment, capabilities of the plant and damage control procedures.

Presentation: Chief Engineer, Damage Control Assistant

1. Damage Control:

- a. DC Repair Party Organization
- b. DC Sound Powered Phone circuits
- c. Action the CDO/OOD (U/W) should take for the following emergencies:
  - (1) Fire
  - (2) Collision
  - (3) Rescue and assistance

2. Procedures to follow when preparing the Engineering Department for restricted maneuvering, conning alongside, emergency breakaway and anchoring:

- a. Normal versus double acceleration/deceleration
- b. Capabilities of engineering plant
- c. Blowing tubes
- d. Bottom/surface blowing
- e. Casualty control
- f. Electrical distribution
- g. After steering and emergency after steering
- h. Anchor windlass
- i. Aircraft elevator machinery
- j. Air compressors

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k. Ship's whistle

3. Engineering aspects of entering/leaving port:

- a. Preparations prior to setting sea and anchor detail
- b. Setting sea and anchor detail
- c. Maneuvering when mooring, anchoring and leaving pier or anchorage
- d. Shutting down the plant to the "at anchor" status
- e. Lighting off to get underway
- f. Securing for sea, normal steaming

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UNIT 5

FLIGHT OPERATIONS

PART 1

Purpose: To inform the prospective CDO (U/W) of all aspects of aircraft control, launching and landing restrictions, handling and servicing problems.

Presentation: Air Officer or Assistant Air Officer

1. Preparation for Flight Operations:
  - a. Flight quarters stations
  - b. Coordination with OOD (U/W)
2. Air Officer Responsibilities:
  - a. VFR operations in control zone
  - b. Landing Signal Officer
  - c. Flight deck/hangar deck procedures
3. Launching Aircraft Procedures:
  - a. Pre-launch
  - b. Manning aircraft
  - c. Launching of fixed wing aircraft and helicopters
  - d. Emergencies after launch
  - e. Emergency pull forward
  - f. Alert condition aircraft
  - g. Methods of aircraft control
  - h. Coordination with CATCC

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4. Recovery of Aircraft:

- a. Recovery of fixed wing aircraft and helicopters
- b. Emergency landing
- c. Emergency signals
- d. Tanker procedures
- e. Divert (Bingo) of aircraft

5. Aircraft Handling Procedures:

- a. General requirements
- b. Equipment (starting/servicing)
- c. Moving aircraft
- d. Fueling and defueling
- e. Arming and dearming
- f. Aircraft handling signals

6. Observe:

- a. Two launch periods (one day, one night)
- b. Two recovery periods (one day, one night)

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UNIT 5  
FLIGHT OPERATIONS  
PART II

Purpose: To familiarize the prospective CDO (U/W) with the functions of Carrier Air Traffic Control Center (CATCC) and Carrier Controlled Approach (CCA) procedures.

Presentation: CATCC Officer

1. Preparation for Flight Operations:
  - a. Operation Area request/flight advisories
  - b. The Air Plan and changes to it
  - c. Pre-launch information
2. Control Criteria and Separation Parameters
3. Control of Departing Aircraft
4. Recovery of Aircraft:
  - a. Case I, II and III criteria and procedures
  - b. Minimums and missed approaches, bolters, wave offs
  - c. Radar handoff (random radar)
  - d. Voice communications
  - e. Lost communications
5. Tanker Procedures - Low state and Bingo
6. Emergencies
7. ATO functions at sea and inport
8. Radio/electronics equipment:
  - a. CATCC

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- b. SPN-44
  - c. SPN-43
  - d. SPN-42
  - e. SPN-41
  - f. OJ3-314 Intercom
9. Observe:
- a. Minimum of one launch period
  - b. Minimum of one recovery period

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UNIT 6

ANCHORING AND GETTING UNDERWAY FROM AN ANCHORAGE

Purpose: To prepare the prospective CDO (U/W) to move the ship from an anchorage in case of an emergency.

Presentation: First Lieutenant, Navigator or Assistant Navigator

1. The anchor and its action

2. Preparation for anchorage:

- a. Study charts and track information, and know courses, turn points, and shoal areas.
- b. Consider the influences of the tide, current, and weather.
- c. Check the Fleet Guide and Port Directory.
- d. Know head bearings, turn bearings, and drop bearings.
- e. Determine which anchor is to be used, scope of chain, depth of water, and type of bottom.

3. Approach to anchorage:

- a. Ensure the OOD and navigation checklists are complete.
- b. Monitor approach speeds carefully, be alert to reduce speed on schedule.
- c. Monitor deceleration carefully during last 1,000 yards.
  - (1) Keep ship on desired track.
  - (2) Be alert for set and drift.
  - (3) Monitor head bearing (if available) to pick up movements away from the track.
  - (4) Be prepared to steer with engines as the Helmsman loses steerageway.

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(5) Remember that "crabbing" along track will put the anchor left or right of the desired drop point. Since the bow anchor is about 200 yards from the Bridge, "crabbing" on track will move the anchor 20 yards for every six degrees of "crab."

4. Anchor:

- a. Setting the anchor
- b. Use of engines to keep proper chain direction and tension
- c. Secure the anchor
  - (1) Swing circle
  - (2) Drag circle
  - (3) Check bearing

5. Getting Underway from Anchorage:

- a. Check briefing data, charts, shoals, tides, and so forth, as described in paragraph 2 above.
- b. Calculate time required to bring the anchor to short stay and to twist to desired departure course.
- c. Determine how to use tugs, if required.
- d. Bring anchor to short stay--use engines to keep chain tending properly.
- e. Twist the ship as required when anchor is clear.
- f. Secure the anchor for sea.
- g. Secure the special sea and anchor detail.

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UNIT 7

ENTERING AND LEAVING PORT

Purpose: To prepare the prospective CDO (U/W) to move the ship into and out of port in case of emergency.

Presentation: Engineer, First Lieutenant and Navigator

1. Deck seamanship fundamentals
2. Standard commands to Helm, Lee Helm, and Line Handlers
3. Basic shiphandling
4. Terrestrial navigation
5. Radar navigation
6. Use of Tugs
7. Watch organization
8. Engineering considerations
9. Prior to getting underway:
  - a. Engineering (coordinate with E00W/EDO):
    - (1) Determine the amount of fuel, feedwater, and freshwater aboard and how to replenish our supply from shore, if necessary.
    - (2) Determine the current plant conditions to include major equipment OOC.
    - (3) Find out how long MLOCs will take and allow the E00W to use his judgment to determine which are necessary for an emergency sortie.
    - (4) Determine if gyros are lit off.
    - (5) Determine when we can discount the following shore services:
      - (a) Shore power cables
      - (b) CHT

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- (c) Freshwater
- (d) Phone lines
- (e) Shore steam
- (f) Donuts
- (6) Ensure EOW checklists are complete.
- (7) Understand procedures for testing main engines.
- b. Deck Department (Coordinate with Duty Deck Officer)
- c. Navigation:
  - (1) Check with QMOW to ensure charts are properly prepared and have the necessary corrections according to Notice to Mariners.
  - (2) Study charts and track information and know the courses, turn points, and shoal areas.
  - (3) Consider the influence of the tide, current, and weather.
  - (4) Check the Fleet Guide and Port Directory.

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DECK SEAMANSHIP FUNDAMENTALS

1. Define the following as applied to ground tackle:

- |                  |                    |
|------------------|--------------------|
| a. Bitts         | h. Pelican Hook    |
| b. Chock         | i. Turnbuckle      |
| c. Cleat         | j. Anchor Windlass |
| d. Hawse Pipe    | k. Gypsy Head      |
| e. Chain Pipe    | l. Capstan         |
| f. Anchor        | m. Wildcat         |
| g. Chain Stopper |                    |

2. Define the following terms as applied to mooring:

- |                        |                  |
|------------------------|------------------|
| a. Mooring Line        | h. Round Turn    |
| b. Breast Line         | i. Figure-8 Turn |
| c. Forward Spring Line | j. Single Up     |
| d. After Spring Line   | k. Double Up     |
| e. Bow/Head Line       | l. Dip the Eye   |
| f. Stern Line          | m. Heavy Strain  |
| g. Tattletale Line     | n. Light Strain  |

3. Discuss the numbering sequence of standard mooring lines.

4. Discuss the purpose of breast, forward, and after spring lines.

5. Describe the actions associated with and the purpose of dipping the eye of a mooring line.

6. Discuss the correct procedures for taking a mooring line to a set of bitts with respect to number and sequence of round turns and Figure-8 turns.

7. Discuss the principle of even strain on mooring lines.

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STANDARD COMMAND FUNDAMENTALS

1. Define the following ship control commands to the Helm:
  - a. Right/left (amount of rudder in degrees)
  - b. Increase your rudder to (amount in degrees)
  - c. Ease your rudder to (amount in degrees)
  - d. Meet her
  - e. Steady as you go
  - f. Rudder amidships
  - g. Shift your helm
  - h. Mind your helm
  - i. Steer nothing to the right/left of (course in degrees)
  - j. How's your rudder?
  - k. Mark your head
  - l. Come right/left, steer course (course in degrees)
2. Define the following commands to the Lee Helm:
  - a. All ahead 1/3, 2/3, standard, full, flank
  - b. Indicate (desired RPM)
  - c. Indicate 999
  - d. Indicate 000
3. Define the following commands to line handlers:

<ol style="list-style-type: none"><li>a. Stand by your lines</li><li>b. Let go (line number)</li><li>c. Let go all lines</li></ol>	<ol style="list-style-type: none"><li>j. Surge</li><li>k. Take (line number) to the capstan</li><li>l. Heave around</li></ol>
--	---

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- |                       |                               |
|-----------------------|-------------------------------|
| d. Send over          | m. Avast heaving              |
| e. Take a strain      | n. Take in                    |
| f. Slack              | o. Cast off                   |
| g. Ease               | p. Shift number (line number) |
| h. Hole (line number) |                               |
| i. Check              |                               |

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SHIPHANDLING FUNDAMENTALS

1. Define the following:
  - a. Surge
  - b. Pivot
  - c. Side Force
  - d. Shaft
  - e. Screw
  - f. Rudder
  - g. Advance
  - h. Transfer
  - i. Target Angle
  - j. Bearing Drift
  - k. Twist
  - l. Bare Steerage Way
2. Describe the following as defined in the OOD Notebook:
  - a. Location and number of screws
  - b. Location and number of rudders
  - c. height of eye of the Bridge
  - d. Length of ship
  - e. Beam of ship
  - f. Draft of ship
  - g. Standard tactical diameter
  - h. Reduced tactical diameter
  - i. Pivot point for ahead and astern propulsion
3. Discuss the usefulness of the "Three Minute" rule and the "Radian" rule.
4. Discuss the following relating to forces affecting the ship and the influence of each on shiphandling:
  - a. Inherent factors:
    - (1) Rudders
    - (2) Screws

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- (3) Freeboard
- (4) Sail area
- (5) Screw wash
- (6) Side force
- b. Environmental factors:
  - (1) Wind
  - (2) Current
  - (3) Visibility
  - (4) Sea state
- c. External factors:
  - (1) Mooring lines
  - (2) Ship's speed greater than 5 knots
  - (3) Ship's speed less than 5 knots
  - (4) Water depth
  - (5) Tugs
- 5. Discuss the procedures for twisting the ship.
- 6. Discuss the procedures for pumping the rudder.
- 7. Explain the effect on steering when you are moving astern.
- 8. Understand the ship's acceleration and deceleration rates.

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TERRESTRIAL NAVIGATION FUNDAMENTALS

1. Discuss the following in terms of how they are obtained and used in navigation:

- |                         |                       |
|-------------------------|-----------------------|
| a. True bearing         | h. Speed over ground  |
| b. Navigational range   | i. Speed of advance   |
| c. Fix                  | j. Course over ground |
| d. Line of position     | k. Intended track     |
| e. Running fix          | l. Set and drift      |
| f. Dead reckoning       | m. Danger Bearing     |
| g. Visibility of lights | n. Turn Bearing       |

2. Discuss the application and navigational use of the following:

- a. Fathometer
- b. Stadimeter
- c. Pit log
- d. Radar

3. Discuss the duties and responsibilities of the OOD, Navigator, and members of the Navigation Team while piloting in restricted waters.

4. Discuss the relationship between the Navigation Team and the Radar Navigation Team.

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USE OF TUGS

1. Discuss the types of tug makeups to include:
  - a. Push and pull
  - b. Chinese power
  - c. Pull (overseas)
2. Discuss considerations for tug placement to include the following factors:
  - a. Tug horsepower
  - b. Number of shafts on tug
  - c. Bow thrusters on tug
  - d. Tug dimensions
  - e. Maneuverability of tug
  - f. Make-up of tug to ship
  - g. Quick release hook
3. Discuss the role of the pilot.
4. Discuss the means of communicating with the tugs from the ship.
5. Discuss how the maneuverability of the ship is affected by the use of tugs.
6. Explain the preferred method of using tugs to moor to a pier.

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ENGINEERING CONSIDERATIONS

1. Discuss the plant line-up for the following conditions:
  - a. Steaming Auxiliary
  - b. Steaming Modified Main
  - c. Ready to answer all bells
2. Discuss the procedures for testing main engines.
3. Discuss the Restricted Maneuvering Doctrine.
4. Discuss requirements for taking on fuel inport.
5. Discuss the procedures necessary to disconnect the following shore services:
  - a. Shore power
  - b. CHT
  - c. Feedwater
  - d. Freshwater
  - e. Phone lines
  - f. Shore steam
  - g. Donuts
6. Discuss the safety considerations for disconnecting shore power lines and shore steam.

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WATCH ORGANIZATION

1. Describe the duties and responsibilities of the following Bridge watchstanders:

- a. OOD
  - b. AOOD
  - c. JOOD
  - d. JOOW
  - e. Helm Safety Officer
2. Describe the relationship between the CDO and the OOD.
3. Describe the function of the pilot.
4. Explain the control of tugs.

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UNIT 8

COMBAT DIRECTION CENTER (CDC)

Purpose: To provide a review for the prospective CDO (U/W) of CDC doctrine, modules, equipment, and weapon systems.

Presentation: CDC Officer, ACDC Officer and/or TAO

1. CWC Concept:

- a. CWC
- b. OTC
- c. SEWC
- d. AAWC
- e. ASWC
- f. ASUWC
- g. STWC
- h. AREC
- i. FOTC
- j. Screen Commander
- k. HEC

2. CDC Doctrine review:

- a. Organization
- b. CDC Equipment
- c. Modular Doctrine

3. CDC Module familiarization:

- a. Display and decision
- b. Anti-air warfare

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- c. Anti-surface and surface
- d. Anti-submarine warfare - Black Night
- e. Electronic Warfare - Pipe Wrench
- 4. Equipment Capabilities and limitations:
  - a. ACDS and LINK 11
  - b. SPS-49
  - c. SPS-48
  - d. SPS-67
  - e. WLR-1
  - f. SLQ-17
  - g. SSQ-82 (MUTE)
  - h. SLQ-25 (NIXIE)
  - i. MK-36 (MOD 8) Chaff launchers (EW/Bridge Control)
- 5. Weapons ARC, location, capabilities, and limitations:
  - a. NSSM
  - b. CIWS
  - c. Stingers
  - d. 50 Cal.